

What is claimed is:

1. A device that attaches a first component to a second component, comprising:
a sleeve positioned in the first component and being axially fixed in the first component; and
5 a bolt positioned in the sleeve, and having a threaded front end that projects outwardly from the sleeve for screwing into a mating thread of the second component, and which can be screwed into the sleeve with a slight radial play and held supported against axial forces,
wherein the bolt has a recess in its axial section accommodated in the sleeve and a spring
10 lock washer located in the recess, whereby as the bolt is axially introduced into the sleeve, the spring lock washer is pressed radially by this sleeve into the recess and engages radially behind an inner shoulder of the sleeve for axial support.
2. The device according to Claim 1, wherein the recess includes a rear deep section in a direction of introduction of the bolt and a front flat section adjoining the rear deep
15 section; a radial depth of the rear deep section corresponding to a radial material thickness of the spring lock washer, and a radial depth of the flat section corresponding to approximately half of the radial material thickness of the spring lock washer.
3. The device according to Claim 2, wherein the recess includes a stop shoulder formed on a rear end in the direction of introduction of the bolt and a support shoulder
20 formed on a front end, the stop shoulder and the support shoulder each being located in a plane perpendicular to the axis of the bolt.

4. The device according to Claim 3, wherein the sleeve has a rear first section in the direction of introduction of the bolt and an adjoining front second section; an inner diameter of the first section coinciding with an outer diameter of the bolt; an inner diameter of the second section being expanded relative to the inner diameter of the first section, and an inner shoulder of the sleeve is formed by a transition from the first section to the second section.

5. The device according to Claim 4, wherein, at a rear end of the sleeve in the direction of introduction of the bolt, the sleeve includes a collar that projects radially outward, and an end section at a front end of the sleeve having a reduced wall thickness that can be flanged outward.

6. The device according to Claim 5, wherein the bolt has a rear first shank section in the direction of introduction that includes an outer diameter coinciding with the inner diameter of the first section of the sleeve, and a front second shank section that is separated from the first shank section by the recess having an outer diameter that is reduced relative to the outer diameter of the first shank section.

7. The device according to Claim 6, wherein the sleeve is a deep drawn part.

8. The device according to Claim 7, wherein the sleeve, the bolt, and the spring lock washer are made of steel.

9. The device according to Claim 8, wherein the spring lock washer includes an axial slot, an outer diameter of the spring lock washer in an unstressed state being equal to the inner diameter of the second section of the sleeve, and the material thickness of the spring lock washer and the width of the slot are dimensioned in such a way that the
5 spring lock washer can be compressed to an outer diameter which is smaller than the inner diameter of the first section of the sleeve.

10. The device according to Claim 1, wherein the recess includes a stop shoulder formed on a rear end in the direction of introduction of the bolt and a support shoulder formed on a front end, the stop shoulder and the support shoulder each being located in a
10 plane perpendicular to the axis of the bolt.

11. The device according to Claim 1, wherein the sleeve has a rear first section in the direction of introduction of the bolt and an adjoining front second section; an inner diameter of the first section coinciding with an outer diameter of the bolt; an inner diameter of the second section being expanded relative to the inner diameter of the first
15 section, and an inner shoulder of the sleeve is formed by a transition from the first section to the second section.

12. The device according to Claim 1, wherein, at a rear end of the sleeve in the direction of introduction of the bolt, the sleeve includes a collar that projects radially outward, and an end section at a front end of the sleeve having a reduced wall thickness
20 that can be flanged outward.

13. The device according to Claim 1, wherein the bolt has a rear first shank section in the direction of introduction that includes an outer diameter coinciding with the inner diameter of a first section of the sleeve, and a front second shank section that is separated from the first shank section by the recess having an outer diameter that is reduced relative to the outer diameter of the first shank section.

14. The device according to Claim 1, wherein the sleeve is a deep drawn part.

15. The device according to Claim 1, wherein the sleeve, the bolt, and the spring lock washer are made of steel.

16. The device according to Claim 1, wherein the spring lock washer includes an axial slot, an outer diameter of the spring lock washer in an unstressed state being equal to an inner diameter of a second section of the sleeve, and a material thickness of the spring lock washer and a width of the slot being dimensioned to compress the spring lock washer to an outer diameter which is smaller than an inner diameter of a first section of the sleeve.

17. An attachment device, comprising:

a substantially cylindrical sleeve having a hollow interior portion with a first interior section, an adjacent second interior section, and an inner shoulder;

an elongated bolt that fits in the sleeve;

5 a recess formed on a portion of the bolt; and

an elastic member disposed in the recess, wherein the elastic member radially compresses inwardly in response to the bolt being disposed in the first interior section and wherein the elastic member radially decompresses outwardly to enable the elastic member to engage the inner shoulder in response to the bolt being disposed in the second
10 interior section.

18. The attachment device of claim 17, wherein the inner shoulder is formed at a transition between the first interior section and the adjacent second interior section.

19. The attachment device of claim 17, wherein the sleeve further includes a collar formed on an end thereof to conformingly contact a first component..

15 20. The attachment device of claim 17, wherein a portion of the sleeve securely engages a portion of the first component.

21. The attachment device of claim 20, wherein the portion of the sleeve is constructed and arranged to expand outward in a radial direction to engage the first component.

22. The attachment device of claim 17, wherein the first interior section has a first interior diameter and the second interior section has a second interior diameter.

23. The attachment device of claim 22, wherein the first interior diameter is smaller than the second interior diameter.

5 24. The attachment device of claim 23, wherein the sleeve further includes a third portion having a third interior diameter greater than the second portion, the third portion being adjacent to the second portion.

25. The attachment device of claim 24, wherein the third portion extends into at least a portion of the first component.

10 26. The attachment device of claim 25, wherein the third portion is constructed and arranged to expand radially outward to securely attach the sleeve to the first component.

27. The attachment device of claim 17, wherein the bolt includes a stop shoulder and wherein the radial shoulder cooperates with the stop shoulder to apply approximately equal and oppositely directed forces on the elastic member to retain the bolt at the
15 predetermined position.

28. The attachment device of claim 27, wherein the recess includes a rear deep section formed adjacent to the stop shoulder and a conically expanding section that tapers outwardly from the rear deep section to substantially match an outer diameter of the intermediate section of the bolt.

5 29. The attachment device of claim 17, wherein the bolt further includes an engagement head formed on an end thereof.

30. The attachment device of claim 17, wherein the bolt further includes an engagement member formed at an end thereof that releasably engages a first component coupled to a second component by the bolt.

10 31. The attachment device of claim 30, wherein the engagement member includes a threaded portion.

32. The attachment device of claim 17, wherein the elastic member includes any one of the members selected from the group consisting of: a spring lock washer, elastic polymer ring, spring steel split ring and a helical spring.

15 33. The attachment device of claim 17, wherein the sleeve is a deep drawn part.

34. The attachment device of claim 17, wherein the sleeve, the bolt, and the elastic member are made of steel.

35. An attachment device, comprising:
- an elongated bolt;
 - means for accepting the elongated bolt;
 - an elastic member disposed on the bolt;
 - 5 means for retaining the elastic member formed on the bolt;
 - means for engaging the elastic member, wherein the elastic member radially compresses in response to the bolt being disposed in a first interior section of the means for accepting the bolt and wherein the elastic member radially decompresses and is engaged in response to the bolt being disposed in a second interior section of the means
 - 10 for accepting the bolt.
36. The attachment device of claim 35, wherein the means for engaging the elastic member is formed at a transition between the first interior section and the second interior section.
- 37 The attachment device of claim 35, wherein the means for accepting the bolt
- 15 further includes means for being securely engaged to a portion of a first component.
38. The attachment device of claim 37, wherein the bolt further includes means for releasably engaging a second component.
39. The attachment device of claim 35, wherein the means for accepting the bolt is a deep drawn part.